

Colorado Department of Public Health and Environment

OPERATING PERMIT

Colorado State University

FIRST ISSUED: October 1, 1998

RENEWED: May 1, 2013

AIR POLLUTION CONTROL DIVISION COLORADO OPERATING PERMIT

FACILITY NAME: Colorado State OPERATING PERMIT NUMBER

University

FACILITY ID: 0690011

RENEWED: May 1, 2013 EXPIRATION DATE: May 1, 2018

MODIFICATIONS: See Appendix F of Permit

Issued in accordance with the provisions of Colorado Air Pollution Prevention and Control Act, 25-7-101 et

 $\underline{\text{seq}}.$ and applicable rules and regulations.

ISSUED TO: PLANT SITE LOCATION:

Colorado State University

Facilities Management Main and South Campus, Fort Collins, CO

6030 Campus Delivery Fort Collins, CO 80523

INFORMATION RELIED UPON

Operating Permit Renewal Application Received: September 23, 2008

And Additional Information Received: August 8, 2008, August 28, 2008, October 23, 2008,

April 20, 2009, July 1, 2009, October 18, 2010, November 29, 2010, July 20, 2011, August 1, 2011,

950PLR073

February 7, 2012, and September 20, 2012

Nature of Business: Activities associated with a major university

Primary SIC: 8221 Secondary SICs: 4961 and 8071

RESPONSIBLE OFFICIAL FACILITY CONTACT PERSON

Name: Mr. Steve Hultin, P.E. Name: Susanne Cordery-Cotter, P.E.

Title: Director of Facilities Management Title: Environmental Engineer, Utilities Services

Phone: (970) 491-0006 Phone: (970) 491-0117

SUBMITTAL DEADLINES

Semi-Annual Monitoring Period: May 1 - October 31 and November 1 - April 30

Semi-Annual Monitoring Report: December 1, 2013 & June 1, 2014 and subsequent yeara

Annual Compliance Period: Begins May 1 to April 30

Annual Compliance Certification: June 1, 2014 and subsequent years

Note that the Semi-Annual Monitoring Reports and Annual Compliance Certifications must be received at the Division office by 5:00 p.m. on the due date. Postmarked dates will not be accepted for the

purposes of determining the timely receipt of those reports/certifications.

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SECTION I - General Activities and Summary

1. Permitted Activities

1.1 This facility is a State university classified under SIC code 8221. The University has two contiguous campuses in Fort Collins: Main Campus (583 acres) and South Campus (approximately 101 acres). The University operates several boilers and emergency generators.

Three boilers (Boilers 1, 2, and 3) at the Main Campus are used for comfort heating and process use, located off Mason Street south of the Gibbons building. The boilers are primarily fired with natural gas and have the capability of using No. 2 fuel oil for backup. A steam turbine (approximately 500 to 1,000 KW) exists downstream of the three boilers which lowers steam pressure generated by the boilers (120 - 160 psig) to the system distribution pressure (40 - 60 psig), and generates electricity for use on campus. Boiler 2 was equipped with an economizer for heat recovery in 2007.

There are also two smaller natural gas-fired boilers on South Campus for comfort heating and process use, located at the Diagnostic Medicine Center (DMC). The university also operates several emergency generators located at different buildings around both campuses.

The facility also houses gasoline storage tanks which are exempt from both APEN and permitting requirement but subject to NESHAP requirements. There are numerous small boilers and heaters located through the facility that are classified as insignificant activities.

This facility is located in an Area classified as attainment/maintenance for carbon monoxide (CO). Under that classification, all SIP-approved requirements for CO will continue to apply in order to prevent backsliding under the provisions of Section 110(l) of the Federal Clean Air Act. This Area is classified as non-attainment for ozone and is part of the 8-hr Ozone Control Area as defined in Regulation No. 7, Section II.A.1.

The following are affected states within 50 miles of the facility: Wyoming. The following Federal Class I designated areas are within 100 kilometers of the facility: Rocky Mountain National Park and Rawah Wilderness Area.

- 1.2 Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air pollutants from this facility in accordance with the requirements, limitations, and conditions of this permit.
- 1.3 This Operating Permit incorporates the applicable requirements contained in the underlying construction permits, and does not affect those applicable requirements, except as modified during review of the application or as modified subsequent to permit issuance using the modification procedures found in Regulation No. 3, Part C. These Part C procedures meet all applicable substantive New Source Review requirements of Part B. Any revisions made using the provisions of Regulation No. 3, Part C shall become new applicable requirements for purposes of this operating permit and shall survive reissuance. This permit incorporates the

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- applicable requirements (except as noted in Section II) from the following construction permits: 85LR251, 07LR0605, 08LR0927 and 09LR1063.
- All conditions in this permit are enforceable by US Environmental Protection Agency, Colorado Air Pollution Control Division (hereinafter Division) and its agents, and citizens unless otherwise specified. **State-only enforceable conditions are:** Permit Condition Number(s): Section II Conditions 2.6 and 4.1 (NSPS General Provisions), and Section IV Conditions 3.g, 14 and 18 (as noted).
- 1.5 All information gathered pursuant to the requirements of this permit is subject to the Recordkeeping and Reporting requirements listed under Condition 22 of the General Conditions in Section IV of this permit.

2. Alternative Operating Scenarios

- 2.1 The permittee shall be allowed to make the following changes to its method of operation without applying for a revision of this permit.
 - 2.1.1 No separate operating scenarios have been specified.

3. Non-Attainment New Source Review (NANSR) and Prevention Of Significant Deterioration (PSD)

- 3.1 This facility is categorized as a NANSR major stationary source (Potential to Emit of VOC or $NO_X > 100$ Tons/Year). Future modifications at this facility resulting in a significant net emissions increase (see Reg 3, Part D, Sections II.A.26 and 42) for VOC or NO_X or a modification which is major by itself (i.e. a Potential to Emit of > 100 TPY of either VOC or NO_X) may result in the application of the NANSR review requirements.
- 3.2 Based on the information provided by the applicant, this source is categorized as a minor stationary source for PSD as of the issue date of this permit. Any future modification which is major by itself (Potential to Emit of > 250 TPY) for any pollutant listed in Regulation No. 3, Part D, Section II.A.42 for which the area is in attainment or attainment/maintenance may result in the application of the PSD review requirements.
- 3.3 No other Operating Permits are associated with this facility for purposes of determining applicability of Prevention of Significant Deterioration (PSD) regulations.

4. Accidental Release Prevention Program [112(r)]

4.1 Based on the information provided by the applicant, this facility is not subject to the provisions of the Accidental Release Prevention Program (section 112(r) of the Federal Clean Air Act).

5. Compliance Assurance Monitoring (CAM)

5.1 The following emission points at this facility use a control device to achieve compliance with an emission limitation or standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. They are therefore subject to the

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provisions of the CAM program as set forth in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV:

None.

6. Summary of Emission Units

6.1 The emissions units regulated by this permit are the following:

| Facility ID | AIRS ID | Facility Des | cription | Description |
|-------------|------------|----------------------|----------------|--|
| S001 | 003 | Boiler #1 | | Babcock & Wilcox, Model FM 2990, S/N: BW-24790, Natural Gas or No. 2 Fuel Oil Fired Boiler Rated at 181 MMBtu/hr. |
| S002 | 007 | Boiler #2 | | Babcock & Wilcox, Model PFI-3063, S/N: BW-22213, Natural Gas or No. 2 Fuel Oil Fired Boiler Rated at 181 MMBtu/hr. |
| S003 | 005 | Boiler #3 | | Union Iron Works, Model 90460, S/N: UIW-7042, Natural Gas or No. 2 Fuel Oil Fired Boiler Rated at 88 MMBtu/hr. |
| S010 | 013 | DMC Boilers | | Two Hurst Boiler & Welding CO Natural Gas Fired boilers, 12.6 MMBtu/hr each, equipped with Low NO _X burners |
| S015 | 018 | Quad I Generators | Rams Horn | Cummins Model 50FGCA, Diesel Fired Engine, Rated at 50 kW |
| | | | BSB | Cummins Model DSGAC-1167197, S/N: I090036688, Diesel Fired Engine, Rated at 150 kW |
| | | | Painter Center | NTU Model 572RSL4029, S/N: MX-124789-0908, Diesel Fired Engine, Rated at 550 kW |
| | | | ECC | Cummins Model DQFAB-7084476, S/N: E080177888, Diesel Fired Engine, Rated at 800 kW |
| | | | Engineering II | Cummins Model QSK50-G4-NR2 (engine), DQGAA 7236949 (generator), S/N: J110259877, Diesel Fired Engine, Rated at 1250 kW |
| | | | VTH | Cummins Model DFEK-7466768, S/N: K080222625, Diesel Fired Engine, Rated at 500 kW |
| | | | Reg Mat | Generac Model 8991670100, S/N: 2095489, Diesel Fired Engine, Rated at 80 kW |
| | | | NRRC-B | Cummins Model DFEK-7222823, S/N: H080199565, Diesel Fired Engine, Rated at 500 kW |
| | | | DMC | Cummins Model DQCA-7148237, S/N: F080189831, Diesel Fired Engine, Rated at 600 kW |

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| | | | VTH 2012 | Mitsubishi Model IDLC2000-2M Diesel Fired Engine, Rated at 2000 kW |
|------|-----|---------------|------------|---|
| S016 | 025 | Corbett | | Cummins Model V-Type, Natural Gas Fired Engine, Rated at 70 kW |
| | | Gasoline stor | rage tanks | Motor Pool (12,000 gallon) |

SECTION II - Specific Permit Terms

1. S001 – S003, Three Boilers, Natural Gas or No. 2 Fuel Oil-Fired

S001 - Babcock & Wilcox, Model FM 2990, S/N: BW-24790, 181 MMBtu/hr

S002 - Babcock & Wilcox, Model PFI-3063, S/N: BW-22213, 181 MMBtu/hr

S003 - Union Iron Works, Model 90460, S/N: UIW-7042, 88 MMBtu/hr

Note: Unless otherwise specified, limits apply to all boilers combined.

| Parameter | Permit | Limitations | Compliance | Moni | toring |
|--|---------------------|---|--------------------|--|--------------------------------|
| | Condition Number | | Emission Factor | Method | Interval |
| NO_X | 1.1 | 127.7 tons/yr Boiler 1: 77.0 tons/yr Boiler 2: 70.3 tons/yr | See Table 1.1 | Recordkeeping and Calculation | Monthly |
| VOC | | 4.3 tons/yr | | | |
| CO | | 65.8 tons/yr | | | |
| SO_2 | | 42.8 tons/yr | | | |
| PM_{10} | | 13.3 tons/yr | | | |
| PM | | 19.1 tons/yr | | | |
| PM Standard | 1.2 | Boilers 1 and 2, Each: 0.129 lb/MMBtu Boiler 3: 0.156 lb/MMBtu | | Fuel Restriction | When Natural Gas and/or No. |
| SO ₂ – When Burning Fuel Oil Only | 1.3 | Boiler 1: 0.8 lb/MMBtu Boilers 2 and 3, Each: 1.5 lb/MMBtu | | | 2 Fuel Oil is Used as Fuel |
| No. 2 Fuel Oil Sulfur Content | 1.4 | Not to Exceed 0.05% by Weight | | Vendor Certification | Each Fuel Oil Shipment |
| Fuel Consumption | 1.5 | 1,597,696 MMBtu/yr Boiler 2: 502 MMscf/yr NG & 5,856,667 gallons/yr No. 2 fuel oil | | Xcel Invoices, Individual Meters, Record Keeping and Calculation | Monthly |
| Opacity | 1.6 | Each Boiler: Not to Exceed 20% Except as Provided for Below | | See Cond | lition 1.6 |
| | | During Startup -Not to exceed 30% for a period or periods aggregating more than six (6) minutes in any 60 consecutive minutes | | | |

1.1 **Total** emissions of Oxides of Nitrogen, Volatile Organic Compounds, Carbon Monoxide, Sulfur Dioxide, Particulate Matter, and Particulate Matter under 10 Micron <u>and</u> emissions of Oxides of Nitrogen **from each Boiler 1 and 2** shall not exceed the limitations stated above (Colorado Construction Permits 85LR251 and 07LR0605, as modified under the provisions of Section I, Condition 1.3). Compliance with the annual limitations shall be monitored by calculating monthly emissions using the emission factors from Table 1.1 in the following equation:

Ton/month = EF (lb/MMBtu) x monthly fuel consumption (MMBtu/mo)

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2000 lb/ton

Table 1.1

| AP-42 Emission Factors (Oil - 5/10; Natural Gas - 7/98) | | | | | | |
|---|---|---|-------------------------------------|---|--|--|
| Pollutant | No. 2 Fuel Oil (lb/10 ³ gal) | No. 2 Fuel Oil (lb/MMBtu) ¹ | Natural Gas (lb/MMscf) | Natural Gas (lb/MMBtu) ² | | |
| NO_X | 24.0 (S001 & S002) 20.0 (S003) | 1.74 x 10 ⁻¹ (S001 & S002) 1.45 x 10 ⁻¹ (S003) | 280.0 (S001 & S002) 100.0 (S003) | 2.75 x 10 ⁻¹ (S001 & S002) 9.80 x 10 ⁻² (S003) | | |
| SO _X ³ | 7.4 (S001 & S002) 7.2 (S003) | 5.36 x 10 ⁻² (S001 & S002) 5.21 x 10 ⁻² (S003) | 0.6 | 5.88 x 10 ⁻⁴ | | |
| VOC | 0.2 | 1.45 x 10 ⁻³ | 5.5 | 5.39 x 10 ⁻³ | | |
| CO | 5.0 | 3.62 x 10 ⁻² | 84.0 | 8.24 x 10 ⁻² | | |
| PM_{10} | 2.3 | 1.67 x 10 ⁻² | 7.6 | 7.45 x 10 ⁻³ | | |
| PM | 3.3 | 2.39 x 10 ⁻² | 7.6 | 7.45 x 10 ⁻³ | | |

¹ No. 2 fuel oil emission factors were converted from lbs/10³ gal based on a heat content of 138,079 Btu/gal per the renewal application.

Monthly emissions from all boilers shall be calculated by the end of each subsequent month. Monthly emissions from each boiler shall be summed together and used in a rolling twelve month total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

Monthly emissions of NO_X from each Boiler 1 and 2 shall be used in a twelve month rolling total to monitor compliance with the annual limitation. Each month a new twelve month total shall be calculated using the previous twelve months' data.

- 1.2 Particulate matter (PM) emissions **from each boiler** shall not exceed limitations listed in the summary table above (Colorado Regulation No. 1, Section III.A.1.b.). Compliance with the particulate matter limitation shall be monitored as follows:
 - 1.2.1 In the absence of credible evidence to the contrary, compliance with the particulate matter standard shall be presumed whenever natural gas is used as fuel for this boiler.
 - 1.2.2 In the absence of credible evidence to the contrary, compliance with the particulate matter standard shall be presumed whenever No. 2 Fuel Oil is used as fuel for this boiler.

Note that the numeric PM standard was determined using the design heat input for the boiler (Boiler 1 and 2 - 181 MMBtu/hr, each and Boiler 3 – 88 MMBtu/hr) in the following equation:

 $PE = 0.5 \text{ x (FI)}^{-0.26}$, where: PE = particulate standard in lb/MMBtuFI = fuel input in MMBtu/hr

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² Natural gas emission factors were converted from lbs/MMscf based on a natural gas heat content of 1020 Btu/scf per AP-42, Section 1.4 footnote a in Tables 1.4-1 and -2

 $^{^{3}}$ The fuel oil SO_X emission factor is based on the AP-42 emission factor and a fuel sulfur content of 0.05% by weight.

- 1.3 Sulfur Dioxide (SO₂) emissions **from each boiler**, **when burning fuel oil**, shall not exceed the above limitation (Colorado Regulation No. 1, Section VI.B.4.b.(i) (Boiler 1) and Section VI.A.2.b.(i) (Boilers 2 and 3)). In the absence of credible evidence to the contrary, compliance with the SO₂ emission limitation is presumed whenever No. 2 fuel oil that meets the sulfur content restriction in Condition 1.4 (0.05 % sulfur by weight) is used as fuel in the boiler.
- 1.4 No. 2 Fuel Oil shall have a sulfur content no greater than 0.05% by weight. Compliance with the sulfur content limit shall be based on the fuel supplier's certification for each shipment of fuel oil.
- 1.5 Consumption of Natural Gas and No. 2 Fuel Oil, **together, from all boilers combined** and **individually, for Boiler 2 only** shall not exceed the limitation stated above (Construction Permits 85LR251 and 07LR0605, as modified under the provisions of Section I, Condition 1.3). Compliance with the fuel consumption limits shall be monitored as follows:
 - 1.5.1 Natural gas usage from each boiler shall be determined by allocating use from the heating plant's fuel meter. Monthly natural gas usage from each boiler's individual meter shall be used to determine the percentage of time each individual boiler was operated during the month. The monthly fuel consumption for each boiler will then be determined by multiplying the boiler's percent operating time by the total monthly heat input indicated on the Xcel Energy invoice for that month.
 - 1.5.2 Fuel oil usage from each boiler shall be determined using the unit's individual fuel meter. Monthly fuel usage, in gallons, will be converted to MMBtu using an assumed heat content of 138,079 Btu/gallon.

Monthly fuel consumption (in MMBtu) of natural gas and No. 2 fuel oil **for all boilers** shall be summed together and used in a twelve month rolling total to monitor compliance with the annual limitation. Each month a new twelve month total shall be calculated using the previous twelve months' data.

Monthly fuel consumption of natural gas (in MMscf) and No. 2 fuel oil (in gallons) **for Boiler 2 only** shall be used in a twelve month rolling total to monitor compliance with the annual limitation. Each month a new twelve month total shall be calculated using the previous twelve months' data.

- 1.6 The boilers are subject to the following opacity requirements:
 - 1.6.1 Except as provided for in Condition 1.6.2 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity (Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to **each boiler**.
 - 1.6.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from start-up which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes

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(Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to **each boiler**.

Compliance with the opacity requirements will be monitored as follows:

- 1.6.3 **When Burning Natural Gas**: In the absence of credible evidence to the contrary, compliance with above opacity requirements shall be presumed whenever natural gas is used as fuel for these boilers.
- 1.6.4 **When Burning No. 2 Fuel Oil:** Compliance with the opacity requirements shall be monitored as follows:
 - 1.6.4.1 Compliance with the opacity standard in Condition 1.6.2 shall be monitored by conducting a visible emission observation in accordance with EPA Reference Method 9, once per year. This annual observation shall be taken within one (1) hour of the commencement of startup on No. 2 fuel oil and every 24 hours thereafter until startup is completed.

A visible emission observation is not required for any annual period where no No. 2 fuel oil has been burned.

1.6.4.2 Compliance with the opacity standard in Condition 1.6.1 shall be monitored by conducting visible emission observations in accordance with EPA Method 9, once per quarter. Such observation shall be conducted within 24 hours of completion of startup on No. 2 fuel oil, if applicable.

If No. 2 fuel oil is burned continuously for seven (7) days, a visible emission observation shall be conducted on the seventh day. Subsequent observations shall be taken every seven (7) days thereafter, provided that No. 2 fuel oil is burned continuously.

If No. 2 fuel oil is not burned during the quarter, then no visible emission observations are required.

- 1.6.4.3 Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, exceedance of the opacity limit shall be considered to exist from the time a Method 9 reading is taken that shows an exceedance of the opacity limit until a Method 9 reading is taken that shows the opacity is less than the opacity limit.
- 1.6.4.4 All opacity observations shall be performed by an observer with current and valid Method 9 certification. Results of Method 9 readings and a copy of the certified Method 9 reader's certificate shall be kept on site and made available to the Division upon request.

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2. S010 – DMC Boilers – Two Hurst Boiler and Welding Co, 12.6 MMBtu/hr each

Note: Unless otherwise specified these limits apply to both boilers combined.

| Parameter | Permit | Limitations | Compliance | Monitoring | |
|----------------------------|---------------------|---|--------------------|---|--|
| | Condition Number | | Emission Factor | Method | Interval |
| NO_X | 2.1 | 5.4 tons/yr | 50 lb/MMscf | Recordkeeping and | Monthly |
| CO | 7 | 9.1 tons/yr | 84 lb/MMscf | Calculation | |
| PM Standard | 2.2 | Each Boiler: 0.259 lbs/MMBtu | | Fuel Restriction | When Natural Gas is Used as Fuel |
| Fuel Consumption | 2.3 | Each Boiler: 104.8 MMscf/yr | | Fuel Meters, Record Keeping and Calculation | Monthly |
| Opacity | 2.4 | Each Boiler: Not to Exceed 20% Except as Provided for Below | | See Condition | on 2.4 |
| | | During Startup -Not to exceed 30% for a period or periods aggregating more than six (6) minutes in any 60 consecutive minutes | | | |
| RACT | 2.5 | | | See Condition | on 2.5 |
| NSPS General Provisions | 2.6 | | | As required by NSPS G | eneral Provisions |

2.1 **Total** emissions of Oxides of Nitrogen (NO_X) and Carbon Monoxide (CO) shall not exceed the limitations stated above (Colorado Construction Permit 08LR0927). Compliance with the annual limitations shall be monitored by calculating monthly emissions using the emission factors from above in the following equation:

 $Ton/month = \frac{EF (lb/MMscf) \ x \ monthly \ fuel \ consumption \ (MMscf/mo)}{2000 \ lb/ton}$

Monthly emissions **from both boilers** shall be calculated by the end of each subsequent month. Monthly emissions from each boiler shall be summed together and used in a rolling twelve month total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

2.2 Particulate matter (PM) emissions **from each boiler** shall not exceed the above limitation (Colorado Regulation No. 1, Section III.A.1.b.). In the absence of credible evidence to the contrary, compliance with the particulate matter standard shall be presumed since only natural gas is permitted to be used as fuel for this boiler.

Note that the numeric PM standard was determined using the design heat input for the boiler (12.6 MMBtu/hr) in the following equation:

 $PE = 0.5 \text{ x (FI)}^{-0.26}$, where: PE = particulate standard in lb/MMBtu

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FI = fuel input in MMBtu/hr

2.3 Consumption of Natural Gas for **each boiler** shall not exceed the limitation stated above (Construction Permit 08LR0927). Natural gas usage from each boiler shall be determined from the unit's individual fuel meter. Monthly fuel consumption (in MMscf) of natural gas from each boiler shall be used in a twelve month rolling total to monitor compliance with the annual limitation. Each month a new twelve month total shall be calculated using the previous twelve months data.

The source shall record and maintain records of the amount of natural gas combusted during each month (40 CFR Part 60 Subpart Dc §60.48c(g)). Monthly records of natural gas consumption shall be maintained for a period of two years following the date of such record (40 CFR Part 60 Subpart Dc §60.48c(h)).

- 2.4 The boilers are subject to the following opacity requirements:
 - 2.4.1 Except as provided for in Condition 2.4.2 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity (Colorado Construction Permit 08LR0927 and Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to **each boiler**.
 - 2.4.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from start-up which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Construction Permit 08LR0927 and Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to **each boiler**.

In the absence of credible evidence to the contrary, compliance with above opacity requirements shall be presumed since only natural gas is permitted to be used as fuel for these boilers.

- 2.5 These boilers are located in an ozone non-attainment area and subject to the Reasonably Available Control Technology (RACT) requirements of Colorado Regulation No. 3, Part B, Section III.D.2.b. RACT for these units has been determined to be compliance with Conditions 2.1 and 2.3. No other RACT requirements apply.
- 2.6 These boilers are subject to the requirements in 40 CFR Part 60 Subpart A "General Provisions". These requirements include, but are not limited to the following:
 - 2.6.1 No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gasses discharged to the atmosphere. (40 CFR 60 Subpart A § 60.12, as adopted by reference in Colorado Regulation No. 6, Part A).

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- 2.6.2 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source (40 CFR Subpart A § 60.11(d), as adopted by reference in Colorado Regulation No. 6, Part A).
- 2.6.3 Records shall be maintained of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the source; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative (40 CFR Part 60 Subpart A § 60.7(b), as adopted by reference in Colorado Regulation No. 6, Part A).

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3. S015 – Seven Quad I Emergency Generators

Note: Unless otherwise noted, these limitations apply to each engine.

| Parameter | Permit Condition | Limitation | Compliance Emission | Monitori | ng |
|----------------------------|---------------------|---|------------------------|--------------------------------|----------|
| 1 arameter | Number | Limitation | Factor | Method | Interval |
| NO_X | 3.1 | See Table 3.1 | See Table 3.1 | Recordkeeping | Monthly |
| Hours of Operation | 3.2 | 250 hours per year | | & Calculation 12 month rolling | |
| Opacity | 3.3 | Not to Exceed 20% Except as Provided for Below | | See Condition | on 3.3 |
| | | During Startup -Not to exceed 30% for a period or periods aggregating more than six (6) minutes in any 60 consecutive minutes | | | |
| NSPS Subpart IIII | 3.4 | See Condition 3.4 | | See Condition | on 3.4 |
| NSPS General Provisions | 3.5 | | | As required by General Prov | |

3.1 Emission of Nitrogen Oxides (NO_X) from engines listed below shall not exceed the limitations listed in the Table 3.1 below.

| Engine | NO _X Emission Limitation | Emission Factor |
|----------------|-------------------------------------|------------------------|
| Painter Center | 2.4 TPY | 19.0 lb/hr |
| ECC | 3.5 TPY | 27.7 lb/hr |
| Engineering II | 5.4 TPY | 43.3 lb/hr |
| VTH | 2.2 TPY | 17.3 lb/hr |
| NRRC-B | 2.2 TPY | 17.3 lb/hr |
| DMC | 2.6 TPY | 20.8 lb/hr |
| VTH 2012 | 8.7 TPY | 69.2 lb/hr |

Compliance with the emission limitations shall be monitored as follows. Monthly emissions shall be calculated by the end of the subsequent month using the above emission factors in Table 3.1 above and hours of operation (as required by Condition 3.3) in the following equation:

 $Ton/mo = \underline{[emission factor (lb/hr) x hours of operation (hr/mo)]}$ 2000 (lb/ton)

Monthly emissions shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

3.2 Hours of operation shall not exceed 250 hours per year for **each** engine. Hours of operation for each engine shall be recorded for any hour the generator is operated using a non-resettable hour

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run-time meter and documented monthly and kept in a log for Division review upon request. Monthly operation hours shall be used in a twelve month rolling total to monitor compliance with the annual limitations. Each month a new twelve month total shall be calculated using the previous twelve months data.

- 3.3 Opacity of emissions from **each** engine shall not exceed the following:
 - 3.3.1 Except as provided for in Condition 3.3.2 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity (Colorado Regulation No. 1, Section II.A.1).
 - 3.3.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from startup which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Regulation No. 1, Section II.A.4).

Compliance with these limitations shall be monitored by conducting opacity observations in accordance with EPA Reference Method 9 as follows:

- 3.3.3 An engine startup period of less than 60 minutes shall not require a startup opacity observation. If the engine startup period is greater than 60 minutes, one opacity observation shall be made for each consecutive 4 hour period of startup during daylight hours. In addition, a record shall be kept of the date and time the engine started and when it was shutdown.
- 3.3.4 Continued operation of the engine after the completion of the startup period shall require monthly opacity observations. If the startup and operation of the engine lasts less than a total of 4 hours from engine start to engine stop, in any one day no opacity observations are required for that day.
- 3.3.1 If no opacity observations are made pursuant to Conditions 3.3.3 and 3.3.4 above, then an opacity observation shall be conducted annually.
- 3.3.2 All opacity observations shall be performed by an observer with current and valid Method 9 certification. Results of Method 9 readings and a copy of the certified Method 9 reader's certificate shall be kept on site and made available to the Division upon request.
- 3.4 These engines are subject to the requirements in 40 CFR Part 60 Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines", as adopted by reference in Colorado Regulation No. 6, Part A.

Emission Standards

3.4.1 The engines must comply with the following emission standards in accordance with their rated maximum engine power. (§§60.4205(b), 60.4202(a)(2), and 89.112)

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| Emission Standards (g/kW-hr [g/hp-hr]) | | | | | | |
|--|---------------------------------|-----------------|--|--|--|--|
| 37 kW [50 HP] ≤ Rated Power < 75 kW [100 HP] | | | | | | |
| CO | $NMHC + NO_X$ | PM | | | | |
| 5.0 [3.7] | 4.7 [3.5] | 0.40 [0.30] | | | | |
| 75 kW [100] | HP] \leq Rated Power < 1 | 130 kW [175 HP] | | | | |
| CO | $NMHC + NO_X$ | PM | | | | |
| 5.0 [3.7] | 4.0 [3.0] | 0.30 [0.22] | | | | |
| 130 kW [175 | $HP] \leq Rated\ Power <$ | 225 kW [300 HP] | | | | |
| CO | $NMHC + NO_X$ | PM | | | | |
| 3.5 [2.6] | 4.0 [3.0] | 0.20 [0.15] | | | | |
| 225 kW [300 | $HP] \leq Rated\ Power <$ | 450 kW [600 HP] | | | | |
| CO | $NMHC + NO_X$ | PM | | | | |
| 3.5 [2.6] | 4.0 [3.0] | 0.20 [0.15] | | | | |
| 450 kW [600 | HP] \leq Rated Power \leq | 560 kW [750 HP] | | | | |
| CO | $NMHC + NO_X$ | PM | | | | |
| 3.5 [2.6] | 4.0 [3.0] | 0.20 [0.15] | | | | |
| Rat | Rated Power > 560 kW [750 HP] | | | | | |
| CO | $NMHC + NO_X$ | PM | | | | |
| 3.5 [2.6] | 6.4 [4.8] | 0.20 [0.15] | | | | |

Note that manufacturer's certification has been provided for each of the engines permitted under this AIRS point 018.

3.4.2 The engines must be operated and maintained according to the manufacturer's written instructions or procedures developed by the source that are approved by the engine manufacturer, over the entire life of the engine. (§60.4206) The source may only change those settings that are permitted by the manufacturer. (§60.4211(a))

Fuel requirements

- 3.4.3 The facility must use diesel fuel that meets the following requirements: (§§60.4207(a) and 80.510(b))
 - 3.4.3.1 Sulfur content of 15 ppm maximum for NR diesel fuel; and
 - 3.4.3.2 A minimum cetane index of 40 **or** a maximum aromatic content of 35 volume percent

Compliance with the fuel limitations shall be monitored by sampling and analyzing each shipment of diesel fuel to determine the sulfur and cetane and/or aromatic content using appropriate ASTM methods, or equivalent if approved in advance by the Division. In lieu of sampling, vendor data may be used to determine the sulfur and cetane and/or aromatic content, provided that the sampling and analysis was performed using the appropriate ASTM methods.

Compliance and monitoring requirements

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- 3.4.4 These engines must be equipped with a non-resettable hour meter prior to startup of the engine. (§ 60.4209(a))
- Emergency stationary ICE may be operated for the purpose of maintenance checks and 3.4.5 readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. (§ 60.4211(f))

Recordkeeping requirements

- 3.4.6 Starting with the model year 2011 for engines with a power rating above 130 kW (175 HP), model year 2012 for a power rating greater than 56 kW (75 HP) and less than 130 kW (175 HP), and model year 2013 for a power rating greater than 19 kW (25 HP) and less than 56 kW (75 HP), if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the source must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The source must record the time of operation of the engine and the reason the engine was in operation during that time. (§ 60.4214(b))
- 3.4.7 If the engine is equipped with a diesel particulate filter, the source must keep records of any corrective action taken after the backpressure monitor has notified that the high backpressure limit of the engine is approached. (§ 60.4214(c))
- 3.5 These engines are subject to the requirements in 40 CFR Part 60 Subpart A "General Provisions". These requirements include, but are not limited to the following:
 - 3.5.1 No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gasses discharged to the atmosphere. (40 CFR 60 Subpart A § 60.12, as adopted by reference in Colorado Regulation No. 6, Part A).

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- 3.5.2 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source (40 CFR Subpart A § 60.11(d), as adopted by reference in Colorado Regulation No. 6, Part A).
- 3.5.3 Records shall be maintained of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the source; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative (40 CFR Part 60 Subpart A § 60.7(b), as adopted by reference in Colorado Regulation No. 6, Part A).

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4. S013 - Corbett Natural Gas Fired Emergency Generator

| Parameter | Permit | Limitation | Emission Factor (g/hp-hr) | Monitoring | |
|-------------------|---------------------|--|------------------------------|-------------------------------|--------------------------------|
| | Condition Number | | | Method | Interval |
| NSPS Subpart JJJJ | 4.1 | HC+NO _X : 10 g/hp-hr CO: 387 g/hp-hr | | Certified Engine Performan | |
| NSPS Subpart A | 4.2 | | | See Condi | tion 4.2 |
| Opacity | 4.3 | Not to Exceed 20% Except as Provided for Below | | Fuel Restriction | Only Natural Gas is Used as |
| | | For Startup – Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 Consecutive Minutes | | | Fuel |

Note that this emission unit is exempt from the APEN reporting requirements in Colorado Regulation No. 3, Part A and the construction permit requirements in Colorado Regulation No. 3, Part B.

4.1 **[Federal-Only]** This engine is subject to the requirements in 40 CFR Part 60 Subpart JJJJ, "Standards of Performance for Stationary Spark Ignition Internal Combustion Engines", including but not limited to the following requirements:

Note that as of the date of revised permit issuance [May 1, 2013], the requirements in 40 CFR Part 60 Subpart JJJJ have not been adopted into Colorado Regulation No. 6, Part A by the Division and are therefore not state-enforceable. In the event that the Division adopts these requirements, these requirements will become both state and federally enforceable.

4.1.1 This source must be operated and maintained such that the emission standards in the table below are achieved over the entire life of the engine: (Table 1 of Subpart JJJJ, §60.4234)

| Emission Standards (g/hp-hr) | | |
|------------------------------|-----|--|
| $HC + NO_X$ | CO | |
| 10 | 387 | |

Compliance Requirements

4.1.2 This facility shall operate an engine certified to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, for new nonroad spark ignition engines according to procedures in 40 CFR Part 90. The facility shall operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, keep records of conducted maintenance to demonstrate compliance. The engine must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply. If the engine settings are adjusted according to and consistent with the manufacturer's instructions, the engine will not be considered out of compliance. (§§ 60.4231(d) and 60.4243(b)(1))

4.1.2.1 If the engine is not a certified engine or was not operated and maintained

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Notification, Reporting, and Recordkeeping Requirements

- 4.1.3 The facility must keep records of the following information:
 - 4.1.3.1 All notifications submitted to comply with this subpart and all documentation supporting any notification. (§ 60.4245(a)(1))
 - 4.1.3.2 Maintenance conducted on the engine. (§ 60.4245(a)(2))
 - 4.1.3.3 If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable. (§ 60.4245(a)(3))
 - 4.1.3.4 If the engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards. (§ 60.4245(a)(4))
- 4.1.4 The source must submit a copy of each performance test as conducted in accordance with §60.4244 within 60 days after the test has been completed. (§ 60.4245(d))
- 4.2 **[Federal-Only**] This engine is subject to the requirements in 40 CFR Part 60 Subpart A "General Provisions". These requirements include, but are not limited to the following:
 - 4.2.1 No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gasses discharged to the atmosphere. (40 CFR 60 Subpart A § 60.12, as adopted by reference in Colorado Regulation No. 6, Part A).
 - 4.2.2 Performance tests shall be conducted in accordance with the requirements in 40 CFR Part 60 Subpart A § 60.8.
- 4.3 Visible emissions shall not exceed 20% opacity (Colorado Regulation No. 1, Section II.A.1) except during periods of startup when visible emissions shall not exceed 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Regulation No. 1, Section II.A.4). In the absence of credible evidence to the contrary, compliance with the opacity limit shall be presumed since only natural gas is permitted to be used as fuel for this engines.

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5. Gasoline Storage Tanks

| Parameter | Permit Condition | Limitation | Emission Factor | Monito | ring |
|--|---------------------|--|-----------------|---------------|----------|
| | Number | | | Method | Interval |
| Gasoline Throughput | 5.1 | | | Recordkeeping | Monthly |
| [Federal-Only] NESHAP Subpart CCCCCC | 5.2 5.2.2 | Work Practice Standards Submerged Fill | | See Condit | ion 5.2 |

Note that this emission unit is exempt from the APEN reporting requirements in Regulation No. 3, Part A and the construction permit requirements in Regulation No. 3, Part B.

- 5.1 The quantity of gasoline processed through the tanks shall be monitored and recorded monthly. Monthly records of gasoline processed shall be retained as required by Condition 5.2.1.
- 5.2 **[Federal-Only]** The tanks are subject to the requirements in 40 CFR Part 63 Subpart CCCCCC, "National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities", as follows:

These requirements included in this Section II.5.2 are only federally enforceable. As of the date of revised permit issuance [May 1, 2013], the requirements in 40 CFR Part 63 Subpart CCCCCC have not been adopted into Colorado Regulation No. 8, Part E by the Division and are therefore not state-enforceable. In the event that the Division adopts these requirements this tank will be subject to the APEN reporting and minor source permitting requirements and these requirements will be state-enforceable.

- 5.2.1 The facility must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following (§63.11116(a)):
 - 5.2.1.1 Minimize gasoline spills;
 - 5.2.1.2 Clean up spills as expeditiously as practicable;
 - 5.2.1.3 Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
 - 5.2.1.4 Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators;
- 5.2.1 Records must be made available within 24 hours of a request by the Administrator (EPA) to document your gasoline throughput. (§§63.11116(b) and 63.11117(d))
- 5.2.2 Gasoline must only be loaded into storage tanks by utilizing submerged filling, as specified in Conditions 5.2.2.1.a through c. The applicable distances shall be measured from the point in the opening of the submerged fill pipe that is the greatest distance from the bottom of the storage tank. (§63.11117(b))

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- 5.2.2.1 Submerged fill pipes installed on or before November 9, 2006, must be no more than 12 inches from the bottom of the tank. (§63.11117(b)(1))
- 5.2.2.2 Submerged fill pipes installed after November 9, 2006, must be no more than 6 inches from the bottom of the tank. (§63.11117(b)(2))
- 5.2.2.3 Submerged fill pipes not meeting the specifications of Conditions 6.2.2.1.a or b are allowed provided the facility can demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by the Administrator's delegated representative during the course of a site visit. (§63.11117(b)(3))
- 5.2.3 The facility must submit an Initial Notification and Notification of Compliance Status for the tanks as required under §63.11124(a). (§63.11117(e))

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SECTION III - Permit Shield

Regulation No. 3, 5 CCR 1001-5, Part C, §§ I.A.4, V.D. & XIII.B; § 25-7-114.4(3)(a), C.R.S.

1. Specific Non-Applicable Requirements

Based upon the information available to the Division and supplied by the applicant, the following parameters and requirements have been specifically identified as non-applicable to the facility to which this permit has been issued. This shield does not protect the source from any violations that occurred prior to or at the time of permit issuance. In addition, this shield does not protect the source from any violations that occur as a result of any modification or reconstruction on which construction commenced prior to permit issuance.

| Emission Unit Description & Number | Non-Applicable Requirement | Justification |
|---|---|---|
| Boiler Nos. 1, 2, and 3 | 40 CFR Part 60 Subpart Db, as adopted by reference in Colorado Regulation No. 6, Part A (Standards of Performance for Industrial, Commercial, Institutional Steam Generating Units) | These requirements are not applicable as these boilers commenced construction (i.e. entered into a contractual obligation to undertake and complete a construction project) prior to June 19, 1984. |
| Four (4) 30,000 gal No. 2 Fuel Oil Storage Tanks | 40 CFR Part 60 Subpart Kb, as adopted by reference in Colorado Regulation No. 6, Part A (General Provisions and New Source Performance Standards for Volatile Organic Liquid Storage Vessels) | These requirements are not applicable as these tanks store liquids that have a true vapor pressure less than 3.5 kPa. |

2. General Conditions

Compliance with this Operating Permit shall be deemed compliance with all applicable requirements specifically identified in the permit and other requirements specifically identified in the permit as not applicable to the source. This permit shield shall not alter or affect the following:

- 2.1 The provisions of §§ 25-7-112 and 25-7-113, C.R.S., or § 303 of the federal act, concerning enforcement in cases of emergency;
- 2.2 The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- 2.3 The applicable requirements of the federal Acid Rain Program, consistent with § 408(a) of the federal act;
- 2.4 The ability of the Air Pollution Control Division to obtain information from a source pursuant to § 25-7-111(2)(I), C.R.S., or the ability of the Administrator to obtain information pursuant to § 114 of the federal act;
- 2.5 The ability of the Air Pollution Control Division to reopen the Operating Permit for cause pursuant to Regulation No. 3, Part C, § XIII.

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2.6 Sources are not shielded from terms and conditions that become applicable to the source subsequent to permit issuance.

3. Streamlined Conditions

The following applicable requirements have been subsumed within this operating permit using the pertinent streamlining procedures approved by the U.S. EPA. For purposes of the permit shield, compliance with the listed permit conditions will also serve as a compliance demonstration for purposes of the associated subsumed requirements.

| Permit Condition(s) | Streamlined (Subsumed) Requirements |
|-----------------------------------|---|
| Section II, Condition 1.6 and 2.4 | Colorado Regulation No. 6, Part B, Section II.C.3.a [20% opacity State-Only requirement for new fuel burning equipment] |
| Section II, Condition 1.2 and 2.2 | Colorado Regulation No. 6, Part B, Section II.C.2 [State-only PM requirement (PE = 0.5(FI) ^{-0.26}) for new fuel burning equipment] |
| Section II, Condition 1.3 | Colorado Regulation No. 6, Part B, Section II.D.2.a [State-only SO ₂ requirement (0.8 lbs/MMBtu) for new fuel burning equipment] |

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SECTION IV - General Permit Conditions (ver 5/22/2012)

1. Administrative Changes

Regulation No. 3, 5 CCR 1001-5, Part A, § III.

The permittee shall submit an application for an administrative permit amendment to the Division for those permit changes that are described in Regulation No. 3, Part A, § I.B.1. The permittee may immediately make the change upon submission of the application to the Division.

2. Certification Requirements

Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.9., V.C.16.a.& e. and V.C.17.

- a. Any application, report, document and compliance certification submitted to the Air Pollution Control Division pursuant to Regulation No. 3 or the Operating Permit shall contain a certification by a responsible official of the truth, accuracy and completeness of such form, report or certification stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- b. All compliance certifications for terms and conditions in the Operating Permit shall be submitted to the Air Pollution Control Division at least annually unless a more frequent period is specified in the applicable requirement or by the Division in the Operating Permit.
- c. Compliance certifications shall contain:
 - (i) the identification of each permit term and condition that is the basis of the certification;
 - (ii) the compliance status of the source;
 - (iii) whether compliance was continuous or intermittent;
 - (iv) method(s) used for determining the compliance status of the source, currently and over the reporting period; and
 - (v) such other facts as the Air Pollution Control Division may require to determine the compliance status of the source.
- d. All compliance certifications shall be submitted to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit.
- e. If the permittee is required to develop and register a risk management plan pursuant to § 112(r) of the federal act, the permittee shall certify its compliance with that requirement; the Operating Permit shall not incorporate the contents of the risk management plan as a permit term or condition.

3. Common Provisions

Common Provisions Regulation, 5 CCR 1001-2 §§ II.A., II.B., II.C., II.E., II.F., II.I, and II.J

To Control Emissions Leaving Colorado

When emissions generated from sources in Colorado cross the State boundary line, such emissions shall not cause the air quality standards of the receiving State to be exceeded, provided reciprocal action is taken by the receiving State.

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b. Emission Monitoring Requirements

The Division may require owners or operators of stationary air pollution sources to install, maintain, and use instrumentation to monitor and record emission data as a basis for periodic reports to the Division.

c. Performance Testing

The owner or operator of any air pollution source shall, upon request of the Division, conduct performance test(s) and furnish the Division a written report of the results of such test(s) in order to determine compliance with applicable emission control regulations.

Performance test(s) shall be conducted and the data reduced in accordance with the applicable reference test methods unless the Division:

- (i) specifies or approves, in specific cases, the use of a test method with minor changes in methodology;
- (ii) approves the use of an equivalent method;
- (iii) approves the use of an alternative method the results of which the Division has determined to be adequate for indicating where a specific source is in compliance; or
- (iv) waives the requirement for performance test(s) because the owner or operator of a source has demonstrated by other means to the Division's satisfaction that the affected facility is in compliance with the standard. Nothing in this paragraph shall be construed to abrogate the Commission's or Division's authority to require testing under the Colorado Revised Statutes, Title 25, Article 7, and pursuant to regulations promulgated by the Commission.

Compliance test(s) shall be conducted under such conditions as the Division shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Division such records as may be necessary to determine the conditions of the performance test(s). Operations during period of startup, shutdown, and malfunction shall not constitute representative conditions of performance test(s) unless otherwise specified in the applicable standard.

The owner or operator of an affected facility shall provide the Division thirty days prior notice of the performance test to afford the Division the opportunity to have an observer present. The Division may waive the thirty day notice requirement provided that arrangements satisfactory to the Division are made for earlier testing.

The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

- (i) Sampling ports adequate for test methods applicable to such facility;
- (ii) Safe sampling platform(s);
- (iii) Safe access to sampling platform(s); and
- (iv) Utilities for sampling and testing equipment.

Each performance test shall consist of at least three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of results of at least three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Division's approval, be determined using the arithmetic mean of the results of the two other runs.

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Nothing in this section shall abrogate the Division's authority to conduct its own performance test(s) if so warranted.

d. Affirmative Defense Provision for Excess Emissions during Malfunctions

An affirmative defense to a claim of violation under these regulations is provided to owners and operators for civil penalty actions for excess emissions during periods of malfunction. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of evidence that:

- (i) The excess emissions were caused by a sudden, unavoidable breakdown of equipment, or a sudden, unavoidable failure of a process to operate in the normal or usual manner, beyond the reasonable control of the owner or operator;
- (ii) The excess emissions did not stem from any activity or event that could have reasonably been foreseen and avoided, or planned for, and could not have been avoided by better operation and maintenance practices;
- (iii) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded;
- (iv) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
- (v) All reasonably possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence;
- (viii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance:
- (ix) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This section is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement; and
- (x) During the period of excess emissions, there were no exceedances of the relevant ambient air quality standards established in the Commissions' Regulations that could be attributed to the emitting source.

The owner or operator of the facility experiencing excess emissions during a malfunction shall notify the division verbally as soon as possible, but no later than noon of the Division's next working day, and shall submit written notification following the initial occurrence of the excess emissions by the end of the source's next reporting period. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to failures to meet federally promulgated performance standards or emission limits, including, but not limited to, new source performance standards and national emission standards for hazardous air pollutants. The affirmative defense provision does not apply to state implementation plan (sip) limits or permit limits that have been set taking into account potential emissions during malfunctions, including, but not necessarily limited to, certain limits with 30-day or longer averaging times, limits that indicate they apply during malfunctions, and limits that indicate they apply at all times or without exception

e. Circumvention Clause

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A person shall not build, erect, install, or use any article, machine, equipment, condition, or any contrivance, the use of which, without resulting in a reduction in the total release of air pollutants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of this regulation. No person shall circumvent this regulation by using more openings than is considered normal practice by the industry or activity in question.

f. Compliance Certifications

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in the Colorado State Implementation Plan, nothing in the Colorado State Implementation Plan shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. Evidence that has the effect of making any relevant standard or permit term more stringent shall not be credible for proving a violation of the standard or permit term.

When compliance or non-compliance is demonstrated by a test or procedure provided by permit or other applicable requirement, the owner or operator shall be presumed to be in compliance or non-compliance unless other relevant credible evidence overcomes that presumption.

g. Affirmative Defense Provision for Excess Emissions During Startup and Shutdown

An affirmative defense is provided to owners and operators for civil penalty actions for excess emissions during periods of startup and shutdown. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of the evidence that:

- (i) The periods of excess emissions that occurred during startup and shutdown were short and infrequent and could not have been prevented through careful planning and design;
- (ii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation or maintenance:
- (iii) If the excess emissions were caused by a bypass (an intentional diversion of control equipment), then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- (iv) The frequency and duration of operation in startup and shutdown periods were minimized to the maximum extent practicable;
- (v) All possible steps were taken to minimize the impact of excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence; and,
- (viii) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This subparagraph is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement.

The owner or operator of the facility experiencing excess emissions during startup and shutdown shall notify the Division verbally as soon as possible, but no later than two (2) hours after the start of the next working day, and shall submit written quarterly notification following the initial occurrence of the excess emissions. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

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The Affirmative Defense Provision does not apply to State Implementation Plan provisions or other requirements that derive from new source performance standards or national emissions standards for hazardous air pollutants, or any other federally enforceable performance standard or emission limit with an averaging time greater than twenty-four hours. In addition, an affirmative defense cannot be used by a single source or small group of sources where the excess emissions have the potential to cause an exceedance of the ambient air quality standards or Prevention of Significant Deterioration (PSD) increments.

In making any determination whether a source established an affirmative defense, the Division shall consider the information within the notification required above and any other information the Division deems necessary, which may include, but is not limited to, physical inspection of the facility and review of documentation pertaining to the maintenance and operation of process and air pollution control equipment.

4. Compliance Requirements

Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.C.9., V.C.11. & 16.d. and § 25-7-122.1(2), C.R.S.

- a. The permittee must comply with all conditions of the Operating Permit. Any permit noncompliance relating to federally-enforceable terms or conditions constitutes a violation of the federal act, as well as the state act and Regulation No. 3. Any permit noncompliance relating to state-only terms or conditions constitutes a violation of the state act and Regulation No. 3, shall be enforceable pursuant to state law, and shall not be enforceable by citizens under § 304 of the federal act. Any such violation of the federal act, the state act or regulations implementing either statute is grounds for enforcement action, for permit termination, revocation and reissuance or modification or for denial of a permit renewal application.
- b. It shall not be a defense for a permittee in an enforcement action or a consideration in favor of a permittee in a permit termination, revocation or modification action or action denying a permit renewal application that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- c. The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of any request by the permittee for a permit modification, revocation and reissuance, or termination, or any notification of planned changes or anticipated noncompliance does not stay any permit condition, except as provided in §§ X. and XI. of Regulation No. 3, Part C.
- d. The permittee shall furnish to the Air Pollution Control Division, within a reasonable time as specified by the Division, any information that the Division may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Division copies of records required to be kept by the permittee, including information claimed to be confidential. Any information subject to a claim of confidentiality shall be specifically identified and submitted separately from information not subject to the claim.
- e. Any schedule for compliance for applicable requirements with which the source is not in compliance at the time of permit issuance shall be supplemental, and shall not sanction noncompliance with, the applicable requirements on which it is based.
- f. For any compliance schedule for applicable requirements with which the source is not in compliance at the time of permit issuance, the permittee shall submit, at least every 6 months unless a more frequent period is specified in the applicable requirement or by the Air Pollution Control Division, progress reports which contain the following:
 - (i) dates for achieving the activities, milestones, or compliance required in the schedule for compliance, and dates when such activities, milestones, or compliance were achieved; and
 - (ii) an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

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g. The permittee shall not knowingly falsify, tamper with, or render inaccurate any monitoring device or method required to be maintained or followed under the terms and conditions of the Operating Permit.

5. Emergency Provisions

Regulation No. 3, 5 CCR 1001-5, Part C, § VII.E

An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed the technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. "Emergency" does not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. An emergency constitutes an affirmative defense to an enforcement action brought for noncompliance with a technology-based emission limitation if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. an emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. the permitted facility was at the time being properly operated;
- c. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- d. the permittee submitted oral notice of the emergency to the Air Pollution Control Division no later than noon of the next working day following the emergency, and followed by written notice within one month of the time when emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

This emergency provision is in addition to any emergency or malfunction provision contained in any applicable requirement.

6. Emission Controls for Asbestos

Regulation No. 8, 5 CCR 1001-10, Part B

The permittee shall not conduct any asbestos abatement activities except in accordance with the provisions of Regulation No. 8, Part B, "asbestos control."

7. Emissions Trading, Marketable Permits, Economic Incentives

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.13.

No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are specifically provided for in the permit.

8. Fee Payment

C.R.S §§ 25-7-114.1(6) and 25-7-114.7

- a. The permittee shall pay an annual emissions fee in accordance with the provisions of C.R.S. § 25-7-114.7. A 1% per month late payment fee shall be assessed against any invoice amounts not paid in full on the 91st day after the date of invoice, unless a permittee has filed a timely protest to the invoice amount.
- b. The permittee shall pay a permit processing fee in accordance with the provisions of C.R.S. § 25-7-114.7. If the Division estimates that processing of the permit will take more than 30 hours, it will notify the permittee of its estimate of what the actual charges may be prior to commencing any work exceeding the 30 hour limit.

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c. The permittee shall pay an APEN fee in accordance with the provisions of C.R.S. § 25-7-114.1(6) for each APEN or revised APEN filed.

9. Fugitive Particulate Emissions

Regulation No. 1, 5 CCR 1001-3, § III.D.1.

The permittee shall employ such control measures and operating procedures as are necessary to minimize fugitive particulate emissions into the atmosphere, in accordance with the provisions of Regulation No. 1, § III.D.1.

10. Inspection and Entry

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.16.b.

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Air Pollution Control Division, or any authorized representative, to perform the following:

- a. enter upon the permittee's premises where an Operating Permit source is located, or emissions-related activity is conducted, or where records must be kept under the terms of the permit;
- b. have access to, and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment),
 practices, or operations regulated or required under the Operating Permit;
- d. sample or monitor at reasonable times, for the purposes of assuring compliance with the Operating Permit or applicable requirements, any substances or parameters.

11. Minor Permit Modifications

Regulation No. 3, 5 CCR 1001-5, Part C, §§ X. & XI.

The permittee shall submit an application for a minor permit modification before making the change requested in the application. The permit shield shall not extend to minor permit modifications.

12. New Source Review

Regulation No. 3, 5 CCR 1001-5, Part B

The permittee shall not commence construction or modification of a source required to be reviewed under the New Source Review provisions of Regulation No. 3, Part B, without first receiving a construction permit.

13. No Property Rights Conveyed

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.11.d.

This permit does not convey any property rights of any sort, or any exclusive privilege.

14. Odor

Regulation No. 2, 5 CCR 1001-4, Part A

As a matter of state law only, the permittee shall comply with the provisions of Regulation No. 2 concerning odorous emissions.

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15. Off-Permit Changes to the Source

Regulation No. 3, 5 CCR 1001-5, Part C, § XII.B.

The permittee shall record any off-permit change to the source that causes the emissions of a regulated pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from the change, including any other data necessary to show compliance with applicable ambient air quality standards. The permittee shall provide contemporaneous notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permit shield shall not apply to any off-permit change.

16. Opacity

Regulation No. 1, 5 CCR 1001-3, §§ I., II.

The permittee shall comply with the opacity emissions limitation set forth in Regulation No. 1, §§ I.- II.

17. Open Burning

Regulation No. 9, 5 CCR 1001-11

The permittee shall obtain a permit from the Division for any regulated open burning activities in accordance with provisions of Regulation No. 9.

18. Ozone Depleting Compounds

Regulation No. 15, 5 CCR 1001-17

The permittee shall comply with the provisions of Regulation No. 15 concerning emissions of ozone depleting compounds. Sections I., II.C., III.D., III. IV., and V. of Regulation No. 15 shall be enforced as a matter of state law only.

19. Permit Expiration and Renewal

Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.6., IV.C., V.C.2.

- a. The permit term shall be five (5) years. The permit shall expire at the end of its term. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted.
- b. Applications for renewal shall be submitted at least twelve months, but not more than 18 months, prior to the expiration of the Operating Permit. An application for permit renewal may address only those portions of the permit that require revision, supplementing, or deletion, incorporating the remaining permit terms by reference from the previous permit. A copy of any materials incorporated by reference must be included with the application.

20. Portable Sources

Regulation No. 3, 5 CCR 1001-5, Part C, § II.D.

Portable Source permittees shall notify the Air Pollution Control Division at least 10 days in advance of each change in location.

21. Prompt Deviation Reporting

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.7.b.

The permittee shall promptly report any deviation from permit requirements, including those attributable to malfunction conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.

"Prompt" is defined as follows:

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- a. Any definition of "prompt" or a specific timeframe for reporting deviations provided in an underlying applicable requirement as identified in this permit; or
- b. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:
 - (i) For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report shall be made within 24 hours of the occurrence;
 - (ii) For emissions of any regulated air pollutant, excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report shall be made within 48 hours; and
 - (iii) For all other deviations from permit requirements, the report shall be submitted every six (6) months, except as otherwise specified by the Division in the permit in accordance with paragraph 22.d. below.
- c. If any of the conditions in paragraphs b.i or b.ii above are met, the source shall notify the Division by telephone (303-692-3155) or facsimile (303-782-0278) based on the timetables listed above. [Explanatory note: Notification by telephone or facsimile must specify that this notification is a deviation report for an Operating Permit.] A written notice, certified consistent with General Condition 2.a. above (Certification Requirements), shall be submitted within 10 working days of the occurrence. All deviations reported under this section shall also be identified in the 6-month report required above.

"Prompt reporting" does not constitute an exception to the requirements of "Emergency Provisions" for the purpose of avoiding enforcement actions.

22. Record Keeping and Reporting Requirements

Regulation No. 3, 5 CCR 1001-5, Part A, § II.; Part C, §§ V.C.6., V.C.7.

- a. Unless otherwise provided in the source specific conditions of this Operating Permit, the permittee shall maintain compliance monitoring records that include the following information:
 - (i) date, place as defined in the Operating Permit, and time of sampling or measurements;
 - (ii) date(s) on which analyses were performed;
 - (iii) the company or entity that performed the analysis;
 - (iv) the analytical techniques or methods used;
 - (v) the results of such analysis; and
 - (vi) the operating conditions at the time of sampling or measurement.
- b. The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report or application. Support information, for this purpose, includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Operating Permit. With prior approval of the Air Pollution Control Division, the permittee may maintain any of the above records in a computerized form.
- c. Permittees must retain records of all required monitoring data and support information for the most recent twelve (12) month period, as well as compliance certifications for the past five (5) years on-site at all times. A permittee shall make available for the Air Pollution Control Division's review all other records of required monitoring data and support information required to be retained by the permittee upon 48 hours advance notice by the Division.

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- d. The permittee shall submit to the Air Pollution Control Division all reports of any required monitoring at least every six (6) months, unless an applicable requirement, the compliance assurance monitoring rule, or the Division requires submission on a more frequent basis. All instances of deviations from any permit requirements must be clearly identified in such reports.
- e. The permittee shall file an Air Pollutant Emissions Notice ("APEN") prior to constructing, modifying, or altering any facility, process, activity which constitutes a stationary source from which air pollutants are or are to be emitted, unless such source is exempt from the APEN filing requirements of Regulation No. 3, Part A, § II.D. A revised APEN shall be filed annually whenever a significant change in emissions, as defined in Regulation No. 3, Part A, § II.C.2., occurs; whenever there is a change in owner or operator of any facility, process, or activity; whenever new control equipment is installed; whenever a different type of control equipment replaces an existing type of control equipment; whenever a permit limitation must be modified; or before the APEN expires. An APEN is valid for a period of five years. The five-year period recommences when a revised APEN is received by the Air Pollution Control Division. Revised APENs shall be submitted no later than 30 days before the five-year term expires. Permittees submitting revised APENs to inform the Division of a change in actual emission rates must do so by April 30 of the following year. Where a permit revision is required, the revised APEN must be filed along with a request for permit revision. APENs for changes in control equipment must be submitted before the change occurs. Annual fees are based on the most recent APEN on file with the Division.

23. Reopenings for Cause

Regulation No. 3, 5 CCR 1001-5, Part C, § XIII.

- a. The Air Pollution Control Division shall reopen, revise, and reissue Operating Permits; permit reopenings and reissuance shall be processed using the procedures set forth in Regulation No. 3, Part C, § III., except that proceedings to reopen and reissue permits affect only those parts of the permit for which cause to reopen exists.
- b. The Division shall reopen a permit whenever additional applicable requirements become applicable to a major source with a remaining permit term of three or more years, unless the effective date of the requirements is later than the date on which the permit expires, or unless a general permit is obtained to address the new requirements; whenever additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program; whenever the Division determines the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or whenever the Division determines that the permit must be revised or revoked to assure compliance with an applicable requirement.
- c. The Division shall provide 30 days' advance notice to the permittee of its intent to reopen the permit, except that a shorter notice may be provided in the case of an emergency.
- d. The permit shield shall extend to those parts of the permit that have been changed pursuant to the reopening and reissuance procedure.

24. Section 502(b)(10) Changes

Regulation No. 3, 5 CCR 1001-5, Part C, § XII.A.

The permittee shall provide a minimum 7-day advance notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permittee shall attach a copy of each such notice given to its Operating Permit.

25. Severability Clause

Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.10.

In the event of a challenge to any portion of the permit, all emissions limits, specific and general conditions, monitoring, record keeping and reporting requirements of the permit, except those being challenged, remain valid and enforceable.

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26. Significant Permit Modifications

Regulation No. 3, 5 CCR 1001-5, Part C, § III.B.2.

The permittee shall not make a significant modification required to be reviewed under Regulation No. 3, Part B ("Construction Permit" requirements) without first receiving a construction permit. The permittee shall submit a complete Operating Permit application or application for an Operating Permit revision for any new or modified source within twelve months of commencing operation, to the address listed in Item 1 in Appendix D of this permit. If the permittee chooses to use the "Combined Construction/Operating Permit" application procedures of Regulation No. 3, Part C, then the Operating Permit must be received prior to commencing construction of the new or modified source.

27. Special Provisions Concerning the Acid Rain Program

Regulation No. 3, 5 CCR 1001-5, Part C, §§ V.C.1.b. & 8

- a. Where an applicable requirement of the federal act is more stringent than an applicable requirement of regulations promulgated under Title IV of the federal act, 40 Code of Federal Regulations (CFR) Part 72, both provisions shall be incorporated into the permit and shall be federally enforceable.
- b. Emissions exceeding any allowances that the source lawfully holds under Title IV of the federal act or the regulations promulgated thereunder, 40 CFR Part 72, are expressly prohibited.

28. Transfer or Assignment of Ownership

Regulation No. 3, 5 CCR 1001-5, Part C, § II.C.

No transfer or assignment of ownership of the Operating Permit source will be effective unless the prospective owner or operator applies to the Air Pollution Control Division on Division-supplied Administrative Permit Amendment forms, for reissuance of the existing Operating Permit. No administrative permit shall be complete until a written agreement containing a specific date for transfer of permit, responsibility, coverage, and liability between the permittee and the prospective owner or operator has been submitted to the Division.

29. Volatile Organic Compounds

Regulation No. 7, 5 CCR 1001-9, §§ III & V.

The requirements in paragraphs a, b and e apply to sources located in an ozone non-attainment area or the Denver 1-hour ozone attainment/maintenance area. The requirements in paragraphs c and d apply statewide.

- a. All storage tank gauging devices, anti-rotation devices, accesses, seals, hatches, roof drainage systems, support structures, and pressure relief valves shall be maintained and operated to prevent detectable vapor loss except when opened, actuated, or used for necessary and proper activities (e.g. maintenance). Such opening, actuation, or use shall be limited so as to minimize vapor loss.
 - Detectable vapor loss shall be determined visually, by touch, by presence of odor, or using a portable hydrocarbon analyzer. When an analyzer is used, detectable vapor loss means a VOC concentration exceeding 10,000 ppm. Testing shall be conducted as in Regulation No. 7, Section VIII.C.3.
- b. Except when otherwise provided by Regulation No. 7, all volatile organic compounds, excluding petroleum liquids, transferred to any tank, container, or vehicle compartment with a capacity exceeding 212 liters (56 gallons), shall be transferred using submerged or bottom filling equipment. For top loading, the fill tube shall reach within six inches of the bottom of the tank compartment. For bottom-fill operations, the inlet shall be flush with the tank bottom.
- c. The permittee shall not dispose of volatile organic compounds by evaporation or spillage unless Reasonably Available Control Technology (RACT) is utilized.

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- d. No owner or operator of a bulk gasoline terminal, bulk gasoline plant, or gasoline dispensing facility as defined in Colorado Regulation No. 7, Section VI, shall permit gasoline to be intentionally spilled, discarded in sewers, stored in open containers, or disposed of in any other manner that would result in evaporation.
- e. Beer production and associated beer container storage and transfer operations involving volatile organic compounds with a true vapor pressure of less than 1.5 PSIA actual conditions are exempt from the provisions of paragraph b, above.

30. Wood Stoves and Wood burning Appliances

Regulation No. 4, 5 CCR 1001-6

The permittee shall comply with the provisions of Regulation No. 4 concerning the advertisement, sale, installation, and use of wood stoves and wood burning appliances.

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OPERATING PERMIT APPENDICES

- A INSPECTION INFORMATION
- **B-MONITORING AND PERMIT DEVIATION REPORT**
- C COMPLIANCE CERTIFICATION REPORT
- **D-NOTIFICATION ADDRESSES**
- **E PERMIT ACRONYMS**
- F PERMIT MODIFICATIONS
- G START-UP PARAMETER REPORT

*DISCLAIMER:

None of the information found in these Appendices shall be considered to be State or Federally enforceable, except as otherwise provided in the permit, and is presented to assist the source, permitting authority, inspectors, and citizens.

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APPENDIX A - Inspection Information

Directions to Facility:

From Denver, take I-25 north to County Road 44 (Prospect Road E.). West on Prospect to College Avenue (U.S. 287). North on College to the Central CSU Campus. West (left) onto Pitkin Street (traffic light at southeast corner of CSU track). North (right) onto Mason Street. The Heating Plant is located next to and behind the Gibbons Building

Safety Equipment Required:

No safety equipment is specified, however, the following is a general recommendation:

Safety Shoes Hard Hat Safety Glasses Hearing Protection

Facility Plot Plan:

The attached figure shows the plot plan as submitted on January 17, 2013.

List of Insignificant Activities:

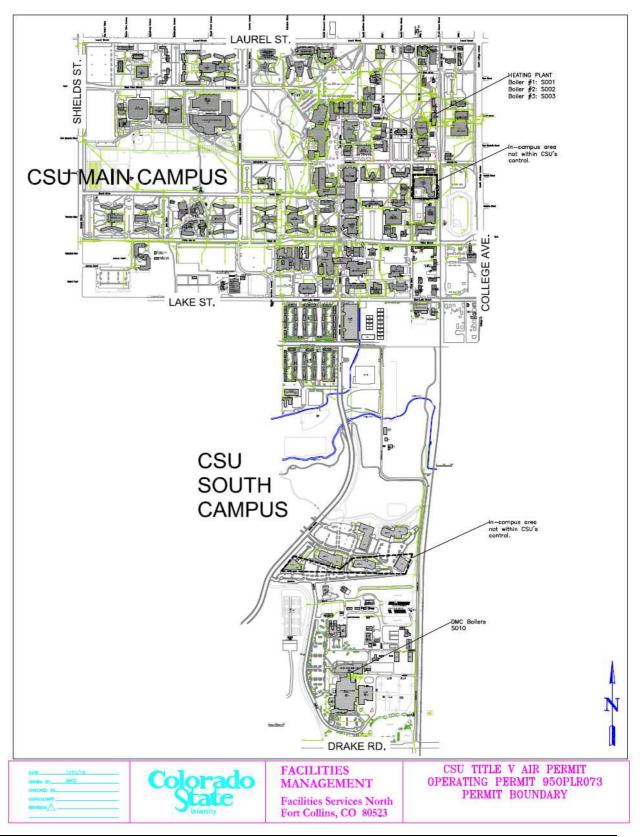
A list of insignificant activities was provided by the source to assist in the understanding of the facility layout. Since there is no requirement to update such a list, activities may have changed since the last filing. Because this facility is a large university, the insignificant activities list was quite extensive and only the general categories were listed here.

- Academic and research laboratories
- Individual pieces of fuel burning equipment with a design rate of less than 5 MM Btu/hr
- Chemical storage tanks or totes with a capacity of less than 500 gallons and daily throughput of less than 25 gallons
- Diesel and fuel oil storage tanks
- Stationary internal combustion engines
- Landscaping and site housekeeping devices equal to or less than 10 hp in size
- Grounds keeping activities
- Individual small space heaters
- Storage of propane in vessels with a capacity of less than 60,000 gallons each
- Welding
- Woodworking
- Maintenance paint usage
- Cooling towers

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- Land development, less than 25 acres each project
- Road and parking lot maintenance
- Street sanding and de-icing operations
- Street and parking lot striping
- Aerosol can usage
- Adhesive use
- Fire training activities
- Janitorial activities
- Natural-gas fired cooking equipment
- Smoking areas
- Plastic pipe welding
- Surface preparation for maintenance purposes
- Truck and car wash facilities
- Swimming pools
- Forklifts
- Non-asbestos demolition activities
- Steam vents and safety release valves

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APPENDIX B

Reporting Requirements and Definitions

with codes ver 2/20/07

Please note that, pursuant to 113(c)(2) of the federal Clean Air Act, any person who knowingly:

- (A) makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to the Act to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State);
- (B) fails to notify or report as required under the Act; or
- (C) falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under the Act shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 2 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

The permittee must comply with all conditions of this operating permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

The Part 70 Operating Permit program requires three types of reports to be filed for all permits.

All required reports must be certified by a responsible official.

Report #1: Monitoring Deviation Report (due at least every six months)

For purposes of this operating permit, the Division is requiring that the monitoring reports are due every six months unless otherwise noted in the permit. All instances of deviations from permit monitoring requirements must be clearly identified in such reports.

For purposes of this operating permit, monitoring means any condition determined by observation, by data from any monitoring protocol, or by any other monitoring which is required by the permit as well as the recordkeeping associated with that monitoring. This would include, for example, fuel use or process rate monitoring, fuel analyses, and operational or control device parameter monitoring.

Report #2: Permit Deviation Report (must be reported "promptly")

In addition to the monitoring requirements set forth in the permits as discussed above, each and every requirement of the permit is subject to deviation reporting. The reports must address deviations from permit requirements, including those attributable to malfunctions as defined in this Appendix, the probable cause of

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such deviations, and any corrective actions or preventive measures taken. All deviations from any term or condition of the permit are required to be summarized or referenced in the annual compliance certification.

For purposes of this operating permit, "malfunction" shall refer to both emergency conditions and malfunctions. Additional discussion on these conditions is provided later in this Appendix.

For purposes of this operating permit, the Division is requiring that the permit deviation reports are due as set forth in General Condition 21. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. For example, quarterly Excess Emission Reports required by an NSPS or Regulation No. 1, Section IV.

In addition to the monitoring deviations discussed above, included in the meaning of deviation for the purposes of this operating permit are any of the following:

- (1) A situation where emissions exceed an emission limitation or standard contained in the permit;
- (2) A situation where process or control device parameter values demonstrate that an emission limitation or standard contained in the permit has not been met;
- (3) A situation in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit; or,
- (4) A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only if the emission point is subject to CAM)

For reporting purposes, the Division has combined the Monitoring Deviation Report with the Permit Deviation Report. All deviations shall be reported using the following codes:

1 = **Standard:** When the requirement is an emission limit or standard 2 = **Process:** When the requirement is a production/process limit

3 = Monitor: When the requirement is monitoring 4 = Test: When the requirement is testing

5 = Maintenance: When required maintenance is not performed
 6 = Record: When the requirement is recordkeeping
 7 = Report: When the requirement is reporting

8 = CAM: A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the

Compliance Assurance Monitoring (CAM) Rule) has occurred.

9 = Other: When the deviation is not covered by any of the above categories

Report #3: Compliance Certification (annually, as defined in the permit)

Submission of compliance certifications with terms and conditions in the permit, including emission limitations, standards, or work practices, is required not less than annually.

Compliance Certifications are intended to state the compliance status of each requirement of the permit over the certification period. They must be based, at a minimum, on the testing and monitoring methods specified in the permit that were conducted during the relevant time period. In addition, if the owner or operator knows of other

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material information (i.e. information beyond required monitoring that has been specifically assessed in relation to how the information potentially affects compliance status), that information must be identified and addressed in the compliance certification. The compliance certification must include the following:

- The identification of each term or condition of the permit that is the basis of the certification;
- Whether or not the method(s) used by the owner or operator for determining the compliance status with each permit term and condition during the certification period was the method(s) specified in the permit. Such methods and other means shall include, at a minimum, the methods and means required in the permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Clean Air Act, which prohibits knowingly making a false certification or omitting material information;
- The status of compliance with the terms and conditions of the permit, and whether compliance was continuous or intermittent. The certification shall identify each deviation and take it into account in the compliance certification. Note that not all deviations are considered violations.
- Such other facts as the Division may require, consistent with the applicable requirements to which the source is subject, to determine the compliance status of the source.

The Certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only for emission points subject to CAM)

Note the requirement that the certification shall identify each deviation and take it into account in the compliance certification. Previously submitted deviation reports, including the deviation report submitted at the time of the annual certification, may be referenced in the compliance certification.

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¹ For example, given the various emissions limitations and monitoring requirements to which a source may be subject, a deviation from one requirement may not be a deviation under another requirement which recognizes an exception and/or special circumstances relating to that same event.

Startup, Shutdown, Malfunctions and Emergencies

Understanding the application of Startup, Shutdown, Malfunctions and Emergency Provisions, is very important in both the deviation reports and the annual compliance certifications.

Startup, Shutdown, and Malfunctions

Please note that exceedances of some New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards that occur during Startup, Shutdown or Malfunctions may not be considered to be non-compliance since emission limits or standards often do not apply unless specifically stated in the NSPS. Such exceedances must, however, be reported as excess emissions per the NSPS/MACT rules and would still be noted in the deviation report. In regard to compliance certifications, the permittee should be confident of the information related to those deviations when making compliance determinations since they are subject to Division review. The concepts of Startup, Shutdown and Malfunctions also exist for Best Available Control Technology (BACT) sources, but are not applied in the same fashion as for NSPS and MACT sources.

Emergency Provisions

Under the Emergency provisions of Part 70 certain operational conditions may act as an affirmative defense against enforcement action if they are properly reported.

DEFINITIONS

Malfunction (NSPS) means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Malfunction (SIP) means any sudden and unavoidable failure of air pollution control equipment or process equipment or unintended failure of a process to operate in a normal or usual manner. Failures that are primarily caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

Emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

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Monitoring and Permit Deviation Report - Part I

- 1. Following is the **required** format for the Monitoring and Permit Deviation report to be submitted to the Division as set forth in General Condition 21. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.
- 2. Part II of this Appendix B shows the format and information the Division will require for describing periods of monitoring and permit deviations, or malfunction or emergency conditions as indicated in the Table below. One Part II Form must be completed for each Deviation. Previously submitted reports (e.g. EER's or malfunctions) may be referenced and the form need not be filled out in its entirety.

| FACILITY NAME: Colorado State Univer | sity |
|--------------------------------------|--|
| OPERATING PERMIT NO: 950PLR073 | |
| REPORTING PERIOD: | (see first page of the permit for specific reporting period and dates) |

| Operating Permit Unit | | | ions Noted g Period? ¹ | Deviation Code ² | Upset/Emergency Condition Reported During Period? | |
|--------------------------|--|-----|--------------------------------------|--------------------------------|---|----|
| ID | Unit Description | YES | NO | | YES | NO |
| S001 | Babcock and Wilcox, Model FM 2990, S.N: BW-24790, Boiler. | | | | | |
| S002 | Babcock and Wilcox, Model PFI-3063, S/N: BW-22213, Boiler. | | | | | |
| S003 | Union Iron Works, Model 90460, S/N: UIW-7042, Boiler. | | | | | |
| S010 | Two Hurst Boiler & Welding CO Natural Gasfired boilers, 12.6 MMBtu/hr each | | | | | |
| S015 | Quad IIII Emergency Generators | | | | | |
| S016 | Corbett Generator | | | | | |
| | General Conditions | | | | | |
| | Insignificant Activities | | | | | |

¹ See previous discussion regarding what is considered to be a deviation. Determination of whether or not a deviation has occurred shall be based on a reasonable inquiry using readily available information.

²Use the following entries as appropriate:

1 = Standard: When the requirement is an emission limit or standard 2 = Process: When the requirement is a production/process limit

3 = Monitor: When the requirement is monitoring
 4 = Test: When the requirement is testing

5 = Maintenance: When required maintenance is not performed
 6 = Record: When the requirement is recordkeeping
 7 = Report: When the requirement is reporting

8 = CAM: A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance

Monitoring (CAM) Rule) has occurred.

9 = Other: When the deviation is not covered by any of the above categories

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Monitoring and Permit Deviation Report - Part II

| FACILITY NAME: Colorado State University OPERATING PERMIT NO: 95OPLR073 REPORTING PERIOD: | | | |
|---|-------------------|----------------|-------------|
| Is the deviation being claimed as an: | Emergency | _ Malfunction_ | N/A |
| (For NSPS/MACT) Did the deviation occur during: | Startup | Shutdown | Malfunction |
| | Normal Operation | | |
| OPERATING PERMIT UNIT IDENTIFICATION: | | | |
| Operating Permit Condition Number Citation | | | |
| Explanation of Period of Deviation | | | |
| Duration (start/stop date & time) | | | |
| Action Taken to Correct the Problem | | | |
| Measures Taken to Prevent a Reoccurrence of the Pr | <u>roblem</u> | | |
| Dates of Malfunctions/Emergencies Reported (if app | plicable) | | |
| Deviation Code | Division Code QA: | | |
| | • | | |
| SEE EXAMPL | E ON THE NEXT | PAGE | |

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EXAMPLE

| Emergency | Malfunction _ | XX | N/A |
|-------------------|--|---|------------------|
| | | | ction |
| | | | |
| l - Unit XXX | | | |
| | | | |
| | | | |
| | | | |
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| | | | |
| | | | |
| <u>blem</u> | | | |
| | | | |
| <u>licable)</u> | | | |
| | | | |
| Division Code QA: | | | |
| | Startup Normal Operation l - Unit XXX blem licable) | Startup Shutdown Normal Operation 1 - Unit XXX | blem licable) |

SOURCE NAME: Colorado State University

Renewed: May 1, 2013

Monitoring and Permit Deviation Report - Part III

REPORT CERTIFICATION

| | • | |
|---|----------------------------------|--|
| FACILITY IDENTIFICATION N | JMBER: 0690011 | |
| PERMIT NUMBER: 950PLR073 | | |
| REPORTING PERIOD: | (see first page of the | e permit for specific reporting period and dates) |
| | o. 3, Part A, Section I.B.40. Th | must be certified by a responsible official as his signed certification document must be |
| STATEMENT OF COMPLETE | NESS | |
| | | ty and, based on information and belief and information contained in this submittal |
| 1-501(6), C.R.S., makes any false | material statement, represe | who knowingly, as defined in Sub-Section 18- ntation, or certification in this document is with the provisions of Sub-Section 25-7 |
| Printed or Typed Na | ime | Title |
| Signature of Respon | sible Official | Date Signed |
| Note: Deviation reports shall be spermit. No copies need be sent to | | the address given in Appendix D of this |
| Operating Permit Number: 95OPL | R073 | First Issued: October 1, 1998 |

APPENDIX C

Required Format for Annual Compliance Certification Reports

Following is the format for the Compliance Certification report to be submitted to the Division and the U.S. EPA annually based on the effective date of the permit. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.

| FACILITY NAME: Colorado State University | |
|--|-----|
| OPERATING PERMIT NO: 950PLR073 | |
| REPORTING PERIOD: | |
| I. Facility Status | |
| During the entire reporting period, this source was in compliance with ALL terms and conditions contain the Permit, each term and condition of which is identified and included by this reference. The method(s) used to determine compliance is/are the method(s) specified in the Permit. | ned |
| With the possible exception of the deviations identified in the table below, this source was in compliance with all terms and conditions contained in the Permit, each term and condition of which is identified and included by this reference, during the entire reporting period. The method used to determine compliance for each term and condition is the method specified in the Permit, unless otherwise indicated and described in the deviation report(s). Note that not all deviations are considered violations. | |

| Unit ID | Unit Description | | | | oring od per nit? ² | Was Co Contin Interm | Was Data Continuous? ⁴ | | |
|---------|---|----------|---------|-----|--------------------------------|----------------------------|--------------------------------------|-----|----|
| | | Previous | Current | YES | NO | Continuous | Intermittent | YES | NO |
| S001 | Babcock and Wilcox, Model FM 2990, S.N: BW-24790, Boiler. | | | | | | | | |
| S002 | Babcock and Wilcox, Model PFI-3063, S/N: BW-22213, Boiler. | | | | | | | | |
| S003 | Union Iron Works, Model 90460, S/N: UIW-7042, Boiler. | | | | | | | | |
| S010 | Two Hurst Boiler & Welding CO Natural Gas-fired boilers, 12.6 MMBtu/hr each | | | | | | | | |
| S015 | Quad IIII Emergency Generators | | | | | | | | |
| S016 | Corbett Generator | | | | | | | | |
| | General Conditions | | | | | | | | |
| | Insignificant Activities ⁴ | | | · | | | | | |

¹ If deviations were noted in a previous deviation report, put an "X" under "previous". If deviations were noted in the current deviation report (i.e. for the last six months of the annual reporting period), put an "X" under "current". Mark both columns if both apply.

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Air Pollution Control Division Colorado Operating Permit Compliance Certification Report

Appendix C Page 2

NOTE:

The Periodic Monitoring requirements of the Operating Permit program rule are intended to provide assurance that even in the absence of a continuous system of monitoring the Title V source can demonstrate whether it has operated in continuous compliance for the duration of the reporting period. Therefore, if a source 1) conducts all of the monitoring and recordkeeping required in its permit, even if such activities are done periodically and not continuously, and if 2) such monitoring and recordkeeping does not indicate non-compliance, and if 3) the Responsible Official is not aware of any credible evidence that indicates non-compliance, then the Responsible Official can certify that the emission point(s) in question were in continuous compliance during the applicable time period.

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² Note whether the method(s) used to determine the compliance status with each term and condition was the method(s) specified in the permit. If it was not, mark "no" and attach additional information/explanation.

³ Note whether the compliance status with each term and condition provided was continuous or intermittent. "Intermittent Compliance" can mean either that noncompliance has occurred or that the owner or operator has data sufficient to certify compliance only on an intermittent basis. Certification of intermittent compliance therefore does not necessarily mean that any noncompliance has occurred.

⁴ Compliance status for these sources shall be based on a reasonable inquiry using readily available information.

| II. | Status | for Accidental Release Prevention Program: | |
|-------------------------------------|--|--|--|
| | A. | This facility is subject is not subject Release Prevention Program (Section 112(r) of the February 112(r) of the February 112(r) of the February 112(r) is not subject. | * |
| | B. | If subject: The facility is i requirements of section 112(r). | s not in compliance with all the |
| | | A Risk Management Plan will be appropriate authority and/or the designated cere | |
| III. | Certif | ication | |
| Colora the doe I have reasor accura | ndo Reg cument reviev nable in ate and | on for the Annual Compliance Certification must be cergulation No. 3, Part A, Section I.B.40. This signed certification is being submitted. Wed this certification in its entirety and, based on information a complete. The Colorado Statutes state that any person who | ormation and belief formed after contained in this certification are true, knowingly, as defined in § 18-1-501(6), |
| | , | es any false material statement, representation, or ce r and may be punished in accordance with the provi | Ç • |
| | | Printed or Typed Name | Title |
| | | Signature | Date Signed |
| | | apliance certifications shall be submitted to the Air Pollution Control of this Permit. | ol Division and to the Environmental Protection |

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APPENDIX D

Notification Addresses

1. Air Pollution Control Division

Colorado Department of Public Health and Environment Air Pollution Control Division Operating Permits Unit APCD-SS-B1 4300 Cherry Creek Drive S. Denver, CO 80246-1530

ATTN: Matt Burgett

2. United States Environmental Protection Agency

Compliance Notifications:

Office of Enforcement, Compliance and Environmental Justice Mail Code 8ENF-T U.S. Environmental Protection Agency, Region VIII 1595 Wynkoop Street Denver, CO 80202-1129

Permit Modifications, Off Permit Changes:

Office of Partnerships and Regulatory Assistance Air and Radiation Programs, 8P-AR U.S. Environmental Protection Agency, Region VIII 1595 Wynkoop Street Denver, CO 80202-1129

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APPENDIX E

Permit Acronyms

Listed Alphabetically:

| AIRS - | Aerometric Information Retrieval System |
|---------|---|
| AP-42 - | EPA Document Compiling Air Pollutant Emission Factors |
| APEN - | Air Pollution Emission Notice (State of Colorado) |
| APCD - | Air Pollution Control Division (State of Colorado) |

ASTM - American Society for Testing and Materials BACT - Best Available Control Technology

BTU - British Thermal Unit

CAA Class Air Act (CAAA Class Air

CAA - Clean Air Act (CAAA = Clean Air Act Amendments)

CCR - Colorado Code of Regulations CEM - Continuous Emissions Monitor

CF - Cubic Feet (SCF = Standard Cubic Feet)

CFR - Code of Federal Regulations

CO - Carbon Monoxide

COM - Continuous Opacity Monitor
CRS - Colorado Revised Statute
DSCF - Dry Standard Cubic Feet

EF - Emission Factor

EPA - Environmental Protection Agency FI - Fuel Input Rate in MMBtu/hr

FR - Federal Register

G - Grams Gal - Gallon

GPM - Gallons per Minute

GR - Grains

HAPs - Hazardous Air Pollutants

HP - Horsepower

HP-HR - Horsepower Hour (G/HP-HR = Grams per Horsepower Hour)

LAER - Lowest Achievable Emission Rate

LBS - Pounds M - Thousand MM - Million

MMscf - Million Standard Cubic Feet

MMscfd - Million Standard Cubic Feet per Day

N/A or NA - Not Applicable NOx - Nitrogen Oxides

NESHAP - National Emission Standards for Hazardous Air Pollutants

NSPS - New Source Performance Standards P - Process Weight Rate in Tons/Hr

PE - Particulate Emissions

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| PM - | Particulate Matter |
|------|--------------------|
| | |

PM₁₀ - Particulate Matter Under 10 Microns

PPM - Parts per Million

PPMV - Parts per Million, by Volume
PPMVD - Parts per Million, by Volume, Dry
PSD - Prevention of Significant Deterioration

PTE - Potential To Emit

RACT - Reasonably Available Control Technology

SCC - Source Classification Code

SCF - Standard Cubic Feet

SIC - Standard Industrial Classification

SO₂ - Sulfur Dioxide TPY - Tons Per Year

TSP - Total Suspended Particulate VOC - Volatile Organic Compounds

APPENDIX F

Permit Modifications

| DATE OF REVISION | MODIFICATION TYPE | SECTION NUMBER, CONDITION NUMBER | DESCRIPTION OF REVISION |
|---------------------|----------------------|---|-------------------------|
| | | | |
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APPENDIX G

Start-up Parameter Report (approved 1/25/2013)

Boiler Light Off Definition Gas or Oil:

Table 1

- 1) Start up command is initialize by the duty operator
- 2) Fuel Type selection is set at the boiler burner control panel Gas or Oil selector switch.
- 3) The unit will sequence through the pre-purge cycle starting the forced draft fan and driving it to the high purge position or speed, after the pre-purge period, the unit will return to low fire position.
- 4) The ignition transformer and the pilot gas solenoid valves are energized simultaneously as indicated by the pilot lamp lighting.
- 5) After 10 seconds, if the pilot flame is established and proven by the flame safeguard system, the gas or oil safety shutoff valves are energized. Lamp lighting will indicate this for either main gas valves or oil valves energized.
- 6) Immediately the gas or oil shutoff valves begin to slowly open thereby-admitting gas or oil to the burner under the control of the gas or oil control valve

Table 2

| | Start Up Time Rate Table | | | | | | | | | | | | | | | | | |
|-------------|-----------------------------------|-------|--------|---------|---------|----------|-----------------------------------|--------|--------------|--------|----------------------------------|---------|----------|--------|--------|---------|---------|----------|
| | Cold Start-up Starting Conditions | | | | | | Warm Start-up Starting Conditions | | | | Hot Start-up Starting Conditions | | | | | | | |
| Description | State Serial | Steam | Drum | Flue Ga | s Temp. | Duration | Duration Steam Drum | | Steam Drum F | | Flue Ga | s Temp. | Duration | Steam | Drum | Flue Ga | s Temp. | Duration |
| | Number | PSIG | Tag ID | Deg F. | Tag ID | Minutes | PSIG | Tag ID | Deg F. | Tag ID | Minutes | PSIG | Tag ID | Deg F. | Tag ID | Minutes | | |
| Boiler #1 | 10629 | 0 | PT-104 | < 120 | TT-102 | ~ 180 | < 160 | PT-104 | 120 - 300 | TT-102 | ~ 90 | < 160 | PT-104 | > 300 | TT-102 | ~ 20 | | |
| Boiler #2 | 15662 | 0 | PT-204 | < 120 | TT-202 | ~ 180 | < 160 | PT-204 | 120 - 300 | TT-202 | ~ 90 | < 160 | PT-204 | > 300 | TT-202 | ~ 20 | | |
| Boiler #3 | 05524 | 0 | PT-304 | < 120 | TT-302 | ~ 180 | < 160 | PT-304 | 120 - 300 | TT-302 | ~ 90 | < 160 | PT-304 | > 300 | TT-302 | ~ 20 | | |

Table 3

| Boiler on Line Definition | | | | | | | | | | | | | | | | |
|---------------------------|--------------|--|--------|------------|---------------------|--------|------------|--------|------------|--------|--------------------|--------|---------|--------|--------|--------|
| | | Light-Off Parameters | | | Start-Up Parameters | | | | | | On-Line Parameters | | | | | |
| Description | State Serial | e Serial Purge Pilot Flame Steam Drum Steam Flow | | n Flow | Flue Gas Temp. | | Steam Drum | | Steam Flow | | Flue Gas Temp. | | | | | |
| | Number | Minutes | off/on | Failure/on | PSIG | Tag ID | Klbs/hr | Tag ID | Deg F. | Tag ID | PSIG | Tag ID | Klbs/hr | Tag ID | Deg F. | Tag ID |
| Boiler #1 | 10629 | ~2 | on | on | < 160 | PT-104 | < 7.5 | FT-103 | > 300 | TT-102 | < 160 | PT-104 | > 7.5 | FT-103 | > 350 | TT-102 |
| Boiler #2 | 15662 | ~2 | on | on | < 160 | PT-204 | < 7.5 | FT-203 | > 300 | TT-202 | < 160 | PT-204 | > 7.5 | FT-203 | > 375 | TT-202 |
| Boiler#3 | 05524 | ~2 | on | on | < 160 | PT-304 | < 3.0 | FT-303 | > 300 | TT-302 | < 160 | PT-304 | > 3.0 | FT-303 | > 350 | TT-302 |

Table 4

| Reporting | | | | | |
|---|--|--|--|--|--|
| 88 | Definition | | | | |
| *HH:MM Light Fires # 1,2,3 Boiler | This is when main flame has been established on the boiler (Start Up has begun). | | | | |
| *HH:MM Boiler # 1,2,3 on line | As Defined in Table 3 | | | | |
| *HH:MM Boiler # 1,2,3 in Full Automatic | The boiler is producing steam and the water, fuel and air control station have been placed into automatic. | | | | |
| *HH:MM Secured # 1,2,3 Boiler | This would be the time the boiler was shut down. | | | | |

*This information is logged in the Daily Plant Operations Log by duty operator.

Example: 04:00 Light Fires #1 Boiler

06:00 Boiler #1 on line

06:15 Boiler #1 in full automatic

22:00 Secured #1 Boiler

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